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AUTHOR Cahen, Leonard S.
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 INSTITUTION Far West Lab. for Educational Research and Development, San Francisco, Calif.
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ABSTRACT

The "C" testing program, which followed the "A" and "B" tests of the Beginning Teacher Evaluation Study, is summarized. A sample of 139 second grade and 123 fifth grade students completed the reading and mathematics achievement battery, as well as affective scales regarding reading, mathematics, and school. The administration procedures, test results, and psychometric properties of the tests are described. (Author/GDC)

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BTES

BEGINNING TEACHER EVALUATION STUDY

Technical Note Series

Technical Note III-4

REPORT OF "C" TESTING

Leonard S. Cahen

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FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

1055 FOLSOM STREET • SAN FRANCISCO, CALIFORNIA 94103 • (415) 505-3000

Technical Note Report of "C" Testing

Overview

This technical note describes the "C" (spring, 1977) testing of students in Phase III-B of the Beginning Teacher Evaluation Study (BTES), (See Cahen, 1976 and 1977 for descriptions of "A" and "B" testing). Most of the second grade "target students" were tested between May 5th and May 13, 1977. In a few cases students were tested as early as March 28th and as late as May 24th.

One hundred and thirty-nine second grade students were tested. The students came from twenty-five classrooms. Twenty-seven teachers were involved in teaching reading and mathematics to these students. The number of teachers is greater than the number of classes tested because some classes are team taught. Seven second grade target students were "lost" to the study from the time of the administration of the "B" test battery. These students had left the participating classes. At the "C" testing, we had 16 second grade classes with 6 target students, 7 classes with 5 target students, and 2 classes with 4 target students.

At fifth grade 123 "target students" were tested at the "C" test administration. The students came from 21 classes and represented 28 teachers. At the time of "C" test administration we had 14 fifth grade classes with 6 target students, 6 classes with 5 target students, and 1 class with 9 target students. Five students were lost to the study from the time of the "B" test administration. The fifth grade test battery was also administered between May 2nd and May 13th. A few students were tested as early as March 28th and as late as May 17th. These exceptions (for 5th

and 2nd grade students) were mainly due to students who were moving prior to the testing date. Table 1 shows the number of second and fifth grade students tested at each of the three ("A," "B," and "C") test administrations.

Insert Table 1 Here

Test Administration

The test administrators were retrained to familiarize them with the test booklets, directions, time limits, etc. The training was designed to help them prepare for administering tests to a small number of pupils. Special rooms were again set up in each school for the administration of the tests. Target students were removed from their regular classrooms and tested as a group. After testing, the booklets were returned to the Far West Laboratory for processing. The testing of students who were absent was rescheduled. The test administrators reported that, in general, the testing situations went well and were similar to the "A" and "B" testings. The test administrators completed test report forms for each testing session and in addition were informally debriefed to see whether any serious discrepancies were observed. No major discrepancies were reported. The test administrators noted that the students seemed to be well motivated for the "C" tests.

Data Processing and Feedback to Teachers

All the test data were processed by a standard item analysis program. The scoring procedures and keys were carefully checked. Psychometric properties were examined for each of the subscales. Using the format that was developed for the reporting of "A" and "B" scores to teachers, a computerized printout for each teacher, listing information about "C"

testing for each of their target students, was prepared. Each teacher was mailed a copy of the scores for his/her students plus a Manual of Interpretation. These materials were sent to the teachers by certified mail (return receipt requested). This procedure was used to maintain our policy of confidentiality of data by having the test scores returned directly to the appropriate teacher. We have continued to meet our obligation to teachers by providing individual feedback on student achievement.

Psychometric Properties of the Tests

Tables 2 and 3 display a summary of psychometric data for the Grade 2 Reading and Mathematics Subtests. Tables 4 and 5 provide analogous information for the Grade 5 Reading and Mathematics Subtests. All scores are corrected for chance guessing.

Insert Tables 2 - 5 Here

In Tables 2 through 5 the symbol $\bar{P}$ serves as an index of the overall difficulty of the tests. This statistic is defined as the subtest mean (corrected for chance) divided by the number of items. The reader will observe a wide range of alpha (reliability) coefficients in Tables 2 - 5.

The last column in Tables 2 - 5 shows the percent of students passing 80% or more of the items on the subtest. We are again concerned about the possibility of "ceiling effects" which will limit the amount of positive growth or change we can observe for the target students. We will use these data to develop our testing plans for the "D" test administration (fall, 1977). The data in the last column in Tables 2 - 5 will be carefully evaluated for this purpose by the BTES staff.

Table 6 shows a summary of psychometric data for three attitude scales. The table includes data for both Grades 2 and 5. For Grade 2, each item in the "Likert-type" scales have 3 response categories; for Grade 5, the items have five response categories. The possible range of scores on the reading affect scale for Grade 2 would be from 7 to 21, and from 7 to 35 at Grade 5.

Insert Table 6 Here

Table 1

Number of Second and Fifth Grade Target Students Tested
at "A," "B," and "C" Test Administrations

	"A" Test Administration	"B" Test Administration	"C" Test Administration
Second Grade	150	146	139
Fifth Grade	134	128	123

Table 2
Psychometric Data
Grade 2 Reading Subtests
"C" Administration
(N = 140)

Subtests	# of Items	$\bar{X}$	σ	$\bar{P}$	Alpha	Standard Error of Measurement	Percent passing 80% or more of Items in Subtest
Decoding Consonant Blends	12	9.83	2.49	.82	.64	1.43	67
Decoding Variant Consonants	14	8.23	4.80	.59	.71	2.49	34
Decoding Long Vowels	20	14.97	4.74	.75	.79	2.12	51
Decoding Complex Patterns	16	9.51	5.00	.59	.82	2.03	33
Compound Words	8	6.79	1.62	.85	.74	.77	82
Root Words and Affixes - D	9	6.06	1.89	.67	.59	1.14	44
Root Words and Affixes - C	8	4.72	2.62	.59	.64	1.47	42
Syllables	10	5.38	2.81	.54	.54	1.81	22
Synonyms	16	9.20	4.75	.57	.82	1.95	30
Pronoun Reference	10	4.76	3.42	.48	.67	1.85	24
Events	11	5.92	3.53	.54	.70	1.85	26
Relationships	6	2.72	2.40	.45	.60	1.39	19
Main Idea	6	2.89	2.06	.48	.44	1.40	15

Table 3
Psychometric Data
Grade 2 Mathematics Subtests
"C" Administration
(N = 140)

Subtests	# of Items	$\bar{X}$	σ	$\bar{P}$	Alpha	Standard Error of Measurement	Percent passing 80% or more of Items in Subtest
Money	10	7.40	2.71	.74	.74	1.32	51
Linear Measurement	11	8.15	1.83	.74	.35	1.41	36
Addition No Regrouping	16	13.42	3.42	.84	.81	1.45	76
Addition with Regrouping	10	1.33	4.95	.13	.94	1.19	17
Speed Test - Addition	14	9.31	3.76	.67	.83	1.49	41
Place Value/ Numerals	25	13.01	6.40	.52	.83	2.61	13
Subtraction no Regrouping	16	12.28	4.34	.77	.85	1.64	64
Word Problems	15	6.73	4.23	.45	.74	2.09	16
Computational Transfer	22	10.13	5.65	.46	.77	2.64	07
Speed Test - Subtraction	14	7.41	4.27	.53	.83	1.69	26
Fractions	10	4.64	3.40	.46	.75	1.62	24
Subtraction with Regrouping	10	.92	4.07	.09	.88	1.34	06

Table 4

Psychometric Data
Grade 5 Reading Subtests
"C" Administration
(N = 123)

Subtests	# of Items	$\bar{X}$	σ	$\bar{P}$	Alpha	Standard Error of Measurement	Percent passing 80% or more of Items in Subtest
Syllables	21	10.62	5.56	.51	.75	2.73	10
Root Words and Affixes	15	6.56	3.21	.44	.50	2.19	03
Synonyms	15	7.94	3.73	.53	.67	2.08	18
Pronouns	16	9.69	3.82	.61	.68	2.09	28
Word Meaning in Context	20	11.05	6.86	.55	.88	2.28	36
Comprehension - Literal	14	6.93	4.40	.50	.77	2.03	24
Comprehension - Inferential	9	4.68	2.70	.52	.63	1.55	24
Comprehension - Main Idea - Literal	5	3.01	1.75	.60	.52	1.09	25
Comprehension - Main Idea - Inference	4	1.67	1.30	.42	.10	1.07	09
Topic Sentence	10	5.14	2.98	.51	.65	1.67	13
Fact and Opinion	10	3.74	3.39	.37	.71	1.74	15

Table 5
Psychometric Data
Grade 5 Mathematics Subtests
"C" Administration
(N = 123)

Subtests	# of Items	$\bar{X}$	σ	$\bar{P}$	Alpha	Standard Error of Measurement	Percent passing 80% or more of Items in Subtest
Addition and Subtraction	10	7.88	2.74	.79	.76	1.26	67
Open Multiplication	4	2.85	1.19	.71	.58	.67	35
Properties and Factors	18	13.52	2.85	.75	.76	1.36	42
Number Patterns	8	3.28	2.70	.41	.65	1.50	19
Multiplication	16	11.36	4.45	.71	.83	1.77	53
Speed Test - Multiplication	42	21.62	10.48	.51	.96	2.13	15
Place Value/ Numerals	10	5.37	2.83	.54	.64	1.62	24
Word Problems	12	3.64	3.29	.30	.62	1.94	03
Perimeters	5	1.89	1.90	.38	.58	1.10	08
Area	5	.37	1.26	.07	.19	1.02	01
Lines and Figures	6	1.25	1.92	.21	.48	1.26	04
Number Pairs	6	1.69	2.18	.28	.60	1.26	08
Fractions	15	5.64	4.89	.38	.83	1.96	16
Division	16	7.33	5.57	.46	.85	2.07	25

Table 6
Psychometric Data
Affect Measures
"C" Administration

Grade 2 (N = 140)

<u>Affect Scale</u>	<u># of Items</u>	<u>X</u>	<u>σ</u>	<u>Alpha</u>	<u>Standard Error of Measurement</u>
Reading	7	16.67	3.96	.85	1.41
Mathematics	7	16.89	4.21	.89	1.28
School	2	4.97	1.23	.71	.47

Grade 5 (N = 123)

<u>Affect Scale</u>	<u># of Items</u>	<u>X</u>	<u>σ</u>	<u>Alpha</u>	<u>Standard Error of Measurement</u>
Reading	11	40.09	7.84	.88	2.55
Mathematics	11	37.11	10.51	.93	2.59
School	2	7.20	2.06	.72	.77

REFERENCES

Cahen, Leonard S. Report on "A" Testing, Technical Note III-2. Beginning Teacher Evaluation Study. San Francisco, California: Far West Laboratory for Educational Research and Development, 1976.

Cahen, Leonard S. Report of "B" Testing, Technical Note III-3. Beginning Teacher Evaluation Study. San Francisco, California: Far West Laboratory for Educational Research and Development, 1977.